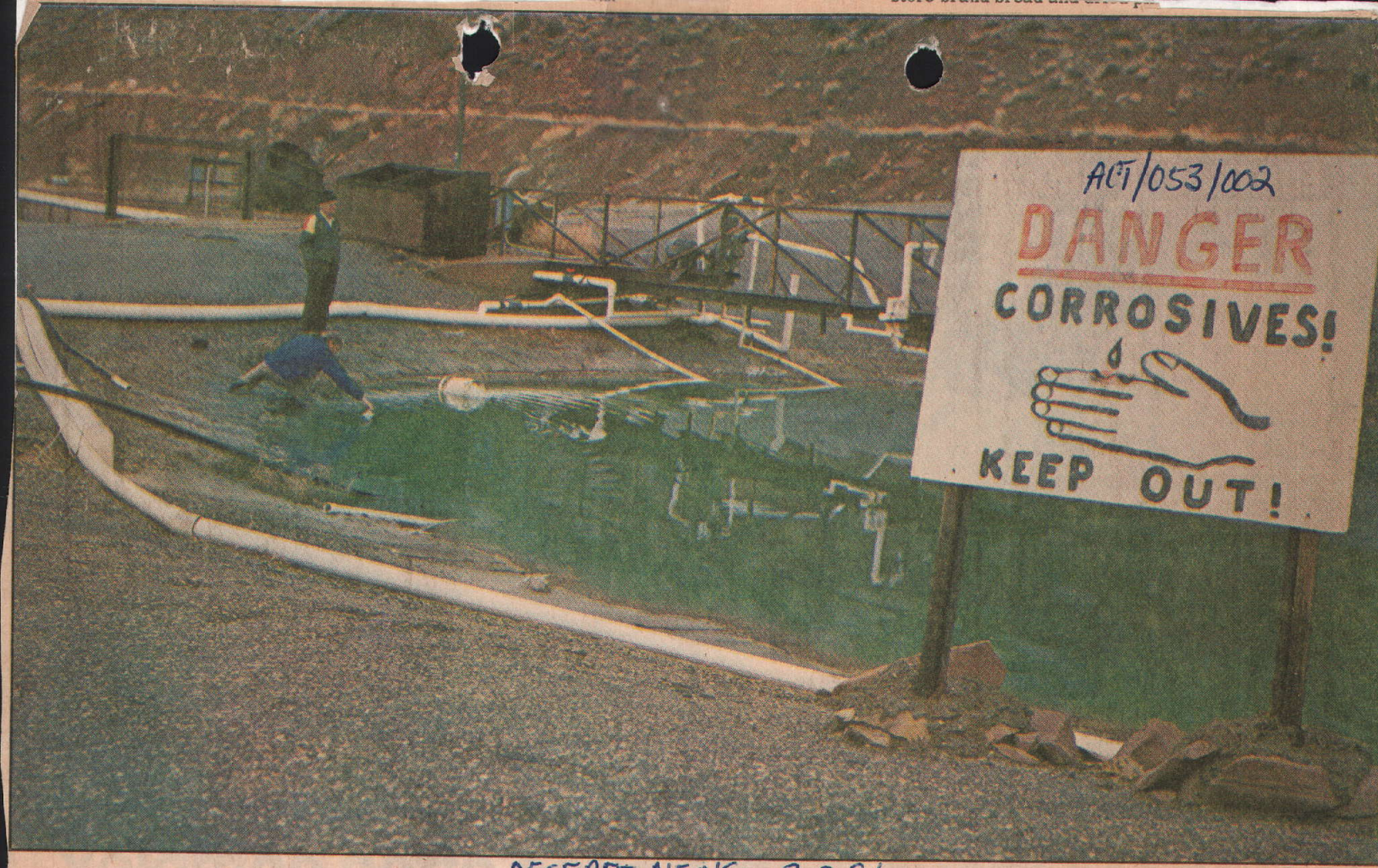

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PHOTOGRAPHY/ JOSEPH BAUMAN

Wayne Thomas of the State Division of Environmental Health takes a sample from the 5M Co. silver mine's leaching pond.

Pond at silver mine raises concerns but apparently poses little danger

By Joseph Bauman
Deseret News staff writer

LEEDS, Washington County — The owner of a culinary water well is worried about an exposed pond of chemicals on the nearby property of a mining plant.

But preliminary results from a sample from the pond show that the chemicals checked apparently are not dangerous to humans, as long as nobody drinks the undiluted solution.

The 5M Co.'s silver mine and extraction plant has been closed nearly three years. Its leaching pond remains, shimmering at the bottom of many tons of ore rubble.

That pond has been a worry to LaVarr B. Webb, who has a nearby drinking-water well on his own property downhill from the plant.

When the company was operating, brines and a weak sulfuric acid were sprinkled onto the rubble. It would work its way through, dissolving minerals from the ore.

At the bottom of the asphalt-lined depression that holds the ore, a mineral-laden solution was removed. From there, it was subjected to electrolysis to remove minerals, mainly silver. When the bottom dropped out of the silver market following Nelson and Bunker Hunt's attempts to corner the market, the plant closed.

To reach the plant, a dirt road winds uphill west of the I-15 freeway near Leeds. No gate bars the way, although anyone driving up the road must cross one or two cables that lie across the road.

The bright-green pond, unfenced and uncovered, stands at the bottom of a long mound of ore rubble. Its surface is about four feet below the sloping rim of the depression. A short distance downhill from the pond is the plant. Both pond and plant are underlain with asphalt.

The plant has three towerlike structures, two large horizontal tanks and a row of what look like half a dozen electrolysis vats. The vats, open to the air, are streaked and crusted.

Throughout the plant site is a litter of broken plastic pipes, grates, machinery, tumbleweeds and piles of scrap iron. One pile is large. The iron was used in the extraction process.

Webb — a retired journalism professor — owns two wells in the area. One, used for drinking water, is close to the plant boundary, but on Webb's property.

"I'm certainly concerned," he said. "Our water and land are all downstream from the contamination." Also, he estimates that the pond of leached chemicals is a couple of miles from the new Quail Creek Reservoir.

"They're putting in a $15 million treatment plant for culinary water (at Quail Creek). If they're taking culinary water out of the lake, it's imperative that that water not be contaminated," Webb said.

"A big storm might take it (the chemical pool) right out of the storage basin."

Jerry Glazier of Hurricane, Washington County, who owns the 5M plant, said his facility once had fences.

"Our friends and neighbors tear them down on a daily basis, as fast as we can put them up," he said.

The plant is not abandoned, he said. It is only inactive, and nobody can guard anything 24 hours a day.

"We're an approved mine. We have as much insurance as we can afford to carry. We have over $50,000 in cash reclamation bond put up. . . . We've fenced as much as we could."

Glazier said he has had the Washington County Sheriff's Office investigate vandalism at the plant. "The damage is in the thousands and thousands of dollars. And let me tell you, we are the victims."

A spokesman for 5M Corp. said that company officials toured the site recently and discovered more vandalism. They inspected road crossings, finding gate posts had been knocked down.

Asked whether 5M would soon try to block the site, he said, "I'm sure we will. We've just got to stop that." F

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The potential of a chemical spill concerns Bill Coffman, director of the Southwest Utah District Health Department, St. George.

"We're investigating it right now," he said. He wants to know if the material in the pond includes potentially harmful chemicals. "It's upgrade from the Quail Creek Reservoir."

A stockholder in 5M, Nick Scholtzen, was asked about the concern that something in the pond might reach Quail Creek Reservoir.

"You're getting into yellow journalism real quick here," Scholtzen said. "First of all, the gully that it's in does not empty into the stream or anything else."

The company owns 500 acres, and "that's all private property. It has fences all around it and no-trespassing signs."

Glazier echoes Scholtzen's assessment about Quail Creek. "That's a closed drainage in there," he said. "The drainage to Quail Creek is clear over on the other side of the hill. We haven't put anything in the drainage that goes to Quail Creek."

Wayne Thomas of the State Division of Environmental Health — the district engineer for the five counties' area of southwestern Utah — recently took a sample from the pond. Webb and reporters accompanied him.

A sample taken earlier by Webb was analyzed by the Southern Utah State Water Laboratory, independent specialists connected to Southern Utah State College, Cedar City.

The sample showed a pH of 3.3 — acidic, but not to the level of being considered a hazardous waste. Acid must have a pH (potential of hydrogen) level of 2 or less to be that dangerous. A neutral solution has a pH of 7. Drinking water ranges from 6 to 8.

Total dissolved solids, a measurement of salt in the solution, amounted to 214,000 parts per million. That's fairly high.

Total mercury was measured at 0.026 parts per million. According to the Environmental Protection Agency, drinking water should not have

Broken pipes, grates, machinery, weeds and scrap iron litter the Washington County mine site.

PHOTOGRAPHY/ JOSEPH BAUMAN

POND

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he said youths on motorbikes always seem able to find a way in. The pond contains a salt-leaching material, he said, and the company has now posted warning signs that are stronger than the caustic chemical.

The only warning sign visible recently stood propped up with rocks and dirt, beside the pea-green pond. Its hand-lettered warning says, "Danger Corrosives! Keep out!" A crude drawing shows drops of a liquid falling on a hand and causing burns.

A "little bit of sulfuric acid" was used with the salt brine in the leaching operation, Glazier said. But he thinks the natural lime in the soil would neutralize it before it got far from the plant.

Besides, he said, with seven inches of asphalt below the plant and pond, plus another holding pond nearby, the material is not going anywhere.

What if it were to wash out in a great thunderstorm?

"We worked the hydrology out with the (Utah) Division of Oil, Gas and Mining," he said. "In the six or seven years we've been involved in the testing in the area there and doing our development, I don't know of any spills."

more than 0.002 ppm — but the pond obviously is not drinking water.

If the solution were diluted by flowing into any water source at least 15 times larger than the pond, the mercury would drop to a safe level.

Sulfates were measured at 1,988.8 parts per million. Typical water in southern Utah might be 50 to 400 ppm, said Joe Hoagland, superintendent of the water lab.

Arsenic in the sample was measured at 0.006 ppm, chromium at 0.388 and copper at 220 parts per million.

None of these readings put the solution into the category of a hazardous waste. But other toxicity tests on the samples Thomas took remain to be completed.

Also, the vats on the plant's grounds — if they were used for electrolysis — conceivably could pose a hazard to any child who played in them. Anyone could wander up the unfenced road, and Glazier said young people on motorbikes and off-road vehicles go there frequently.

But the green pool does not seem dangerous, at least from the tests run on Webb's sample.

"The arsenic looks really low, so I think that would not be a hazardous waste," said Dennis Downs of the State's Solid and Hazardous Waste Division. "It wouldn't be for chromium, either. Copper isn't one of the hazardous metals they test for, either."

What about the acidic level, measured at 3.3 pH?

"I think we tested Coca Cola here one time," he said. State officials were checking their instruments' meters and decided to run some Coca Cola through the machine.

"As I remember, Coke came out 3.5." That's not much less acidic than the material in the pool.

What about kids playing there, splashing around in the pool?

"If they got a quantity into their eyes, then I suspect there would be a possibility of some irritation there." But he doubts that getting it on the skin could cause burns. There would not be damage except with prolonged exposure.

Sediments at the bottom of the pool were not sampled, so there could be other chemicals or different concentrations.

What about the worries for the culinary well below the pond?

Glazier claims the well shouldn't be used for drinking water — not because of the plant but because the underground strata are heavily mineralized.